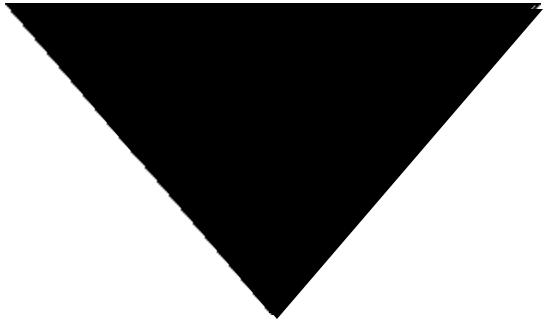
OVERVIEW OF POLLUTION PREVENTION REPORTING

POLLUTION PREVENTION HIERARCHY



THINGS TO REMEMBER WHEN COMPLETING SECTION 8

- Key concepts
  - Waste streams
  - Process streams
  - Reportable recycling
  - Source reduction activities
- Facilities should apply these concepts consistently
  - Across facility
  - Across agency/company

RELEASES AND OTHER WASTE MANAGEMENT

- Part II, Sections 8.1 through 8.7 of Form R
  - Column A - Prior Reporting Year Estimate
  - Column B - Current Reporting Year Estimate
  - Column C - Next Reporting Year Projection
  - Column D - Following Reporting Year Projection

RELEASES AND OTHER WASTE MANAGEMENT

- **Part II, Sections 8.1 through 8.7 of Form R**
  - **Quantity of a Section 313 chemical reported in Sections 8.1 through 8.7 does not include releases (including on-site and off-site disposal) and other off-site waste management activities resulting from remedial actions, catastrophic events, or one-time events not associated with production process. These quantities should be reported in Section 8.8 only**

RELEASES

- **Section 8.1: Quantity released**
  - **Quantity of a Section 313 chemical "released"**
    - » **Definition of release: "...any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing...into the environment…" (EPCRA Section 329(8))**
    - » **Includes fugitive and stack air emissions, releases to land, releases to water, underground injections, and on-site and off-site disposal**
    - » **Includes metals in wastes sent to a POTW (metals cannot be destroyed)**

RELEASES

- **Section 8.1: Quantity released (continued)**
  - **Section 8.1 = Sections 5 + 6.2 (disposal only) + 6.1(for metals and metal compounds only) - 8.8 (release or off-site disposal only)**
  - **Possible data sources**
    - » **Data and calculations from Sections 5 and 6 of Form R**

ENERGY RECOVERY

- **Sections 8.2 and 8.3: On-site and off-site energy recovery**
  - **Things to remember about energy recovery**
    - » **Combustion unit (e.g., industrial furnace, industrial kiln, or boiler) must be integrated into an energy recovery system**
    - » **Section 313 chemical must have significant heating value (e.g., 5,000 BTU/lb.)**
    - » **Section 313 chemicals that are, or are contained in, traditional fuels should not be reported as combusted for energy recovery**

ENERGY RECOVERY

- **Section 8.2: On-site energy recovery**
  - Quantity of Section 313 chemical used for energy recovery on-site
    - » Quantity *actually* combusted in the energy recovery unit - *not* the quantity entering the unit
  - A code reported in Section 7B indicates that an estimate should be calculated for Section 8.2
  - Possible data sources
    - » Engineering process specifications
    - » Mass balance calculations
    - » Best engineering judgement

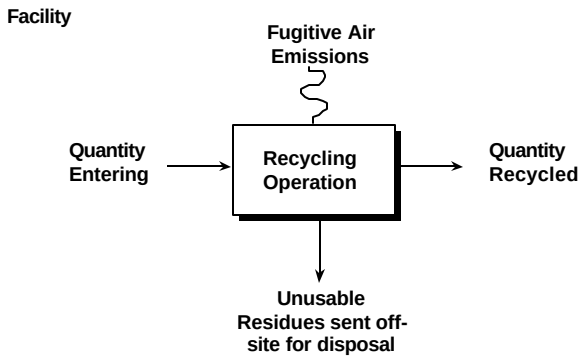
ENERGY RECOVERY

- **Section 8.3: Off-site energy recovery**
  - Quantity of Section 313 chemical that is *transferred* off-site for energy recovery
    - » Includes total quantity of Section 313 chemical *transferred* off-site for energy recovery purposes - *not* quantity actually combusted off-site
  - Possible data sources
    - » Section 6.2 (codes M56 and M92) of Form R
    - » Receipts from off-site facilities
    - » RCRA hazardous waste manifests

RECYCLING

- **Section 8.4: On-site recycling**
  - Quantity of Section 313 chemical recycled on-site
    - » Includes total quantity of Section 313 chemical *recovered* from the recycling process and made available for further use
  - Possible data sources
    - » Engineering process specifications
    - » Mass balance calculations
  - A code reported in Section 7C indicates that an estimate should be calculated for Section 8.4

CALCULATING QUANTITY RECYCLED IN SECTION 8.4



RECYCLING

- **Section 8.5: Off-site recycling**
  - Quantity of Section 313 chemical *transferred* off-site for recycling
    - » Includes total quantity of Section 313 chemical *transferred* to off-site locations for recycling
  - Possible data sources
    - » Section 6.2 of Form R (only for recycling destinations)
    - » Receipts from off-site recycling facilities
    - » RCRA hazardous waste manifests
    - » RCRA hazardous waste report (BRS)

WASTE TREATMENT

- **Section 8.6: Quantity treated on-site**
  - Quantity of Section 313 chemical *treated* on-site
    - » Includes all quantities of Section 313 chemical destroyed
  - Possible data sources
    - » Calculations used to complete Section 7A of Form R
      - Remember to include quantities that are actually destroyed (or converted to a non-listed form), not just removed from the waste stream

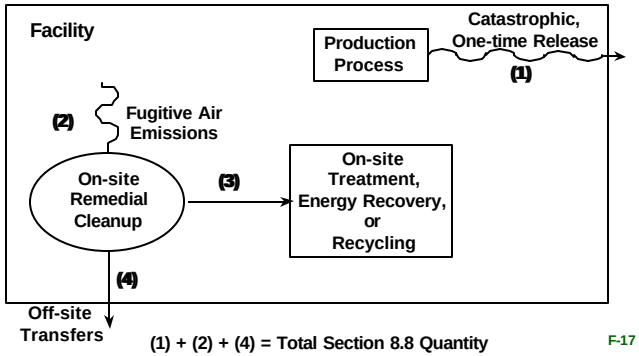
WASTE TREATMENT

- **Section 8.7: Off-site waste treatment**
  - The amount of Section 313 chemical that is *transferred* off-site for waste treatment
    - » Includes all quantities of Section 313 chemical *transferred* to off-site facilities for waste treatment
  - Possible data sources
    - » Sections 6.1 and 6.2 (i.e., off-site transfers for waste treatment)
      - Important: Assume all Section 6.1 quantities are treated, except metals and metal compounds

REMEDIAL, CATASTROPHIC, OR ONE-TIME RELEASES

- **Section 8.8: Remedial, catastrophic, or one-time releases**
  - Quantity of Section 313 chemical released into the environment or transferred off-site as a result of:
    - » Remediation
    - » Catastrophic events (e.g., earthquake, hurricane, fire, floods)
    - » One-time events not associated with production processes (e.g., pipe rupture due to unexpected weather)
  - Does not include Section 313 chemicals treated, recovered for energy, or recycled ON-SITE
  - Excludes quantities in Sections 8.1 through 8.7

CALCULATING QUANTITY REPORTED IN SECTION 8.8



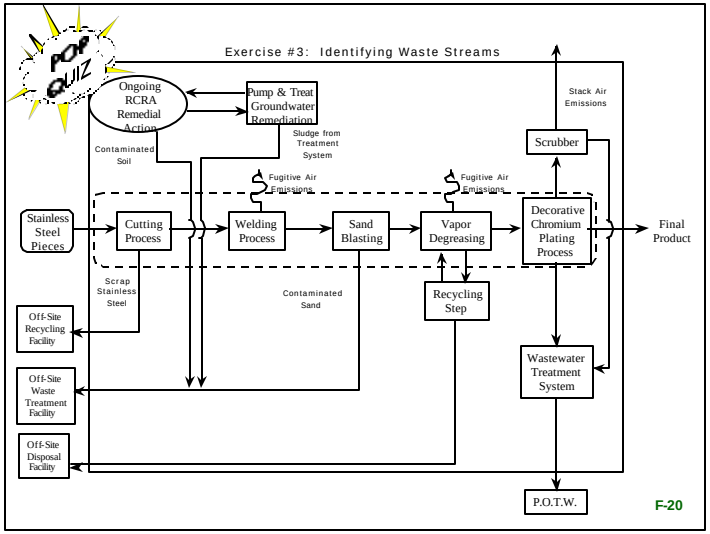
(1) + (2) + (4) = Total Section 8.8 Quantity

REMEDIAL, CATASTROPHIC, OR ONE-TIME RELEASES

- Section 8.8 (continued)
  - Possible data sources
    - » Quantities reported in Part II, Sections 5 and 6
    - » Accident investigation reports
    - » Inventory reconciliation
    - » Mass balance calculations
    - » Monitoring reports (e.g., pH, discharge monitoring reports, continuous emissions monitoring)
    - » CERCLA reports filed with the National Response Center
    - » Release notification reports required under EPCRA Section 304

SOURCE REDUCTION AND OTHER WASTE MANAGEMENT ACTIVITIES

- Important points regarding Sections 8.1 through 8.8
  - Sum of the quantities in Sections 8.1 through 8.7 equals the total quantity of the Section 313 chemical "entering any waste stream (or otherwise released into the environment) prior to recycling, treatment, or disposal." (PPA Section 6607(b)(1))
  - Quantities reported in Sections 8.1 through 8.7 are exclusive of each other
  - Sum of Sections 8.1 through 8.7 is mutually exclusive of the quantity in Section 8.8



PRODUCTION RATIO OR ACTIVITY INDEX

- Section 8.9: Production ratio or activity index
  - A ratio of production or activity involving the Section 313 chemical in the reporting year to production or activity in the previous year
  - Allows quantities of the Section 313 chemical reported in Sections 8.1 through 8.7 in the current year to be compared to quantities reported in the prior year
  - Production ratio or activity index is determined by dividing the level of production (or activity) in the current year by the level of production (or activity) in the prior year
  - Select methodology least likely to be affected by potential source reduction activities

PRODUCTION RATIO

- Use production ratio if Section 313 chemical usage is related to a production level
  - Equation

$$\frac{\text{Quantity of Product: Current Reporting Year}}{\text{Quantity of Product: Prior Reporting Year}}$$

Example:

Oven manufacturing

$$\frac{\text{40,000 ovens assembled (Current RY)}}{\text{35,000 ovens assembled (Prior RY)}} = 1.14$$

ACTIVITY INDEX

- Use activity index if Section 313 chemical usage is related to an activity and not to a production level
  - Equation

$$\frac{\text{Level of Activity : Current Reporting Year}}{\text{Level of Activity: Prior Reporting Year}}$$

Example:

Tank washouts

$$\frac{\text{60 Washouts (Current RY)}}{\text{50 Washouts (Prior RY)}} = 1.2$$

PRODUCTION RATIO OR ACTIVITY INDEX

- Possible data sources
  - Production reports
  - Maintenance records for otherwise used chemicals
  - Waste minimization section of the RCRA hazardous waste report
  - State/corporate pollution prevention reports

SOURCE REDUCTION ACTIVITIES

- **Section 8.10**
  - Source reduction practices used with respect to the Section 313 chemical at the facility and the methods used to identify those activities
  - This section includes only those source reduction activities implemented during the reporting year
    - » Only include activities that reduce or eliminate quantities reported in Sections 8.1 through 8.7

SOURCE REDUCTION ACTIVITIES

- **Section 8.10 (continued)**
  - Possible data sources
    - » Standard operating procedures
    - » Process changes or equipment changes (e.g., replacements, adjustments)
    - » Raw material changes
    - » Work orders for process changes
    - » Product redesign specifications
    - » Audit reports and follow-up actions
    - » Waste minimization section of the RCRA hazardous waste report
    - » State/corporate pollution prevention reports

OPTIONAL INFORMATION

- **Section 8.11**
  - Facility should indicate whether additional optional information on source reduction, recycling, or pollution control activities is included with the report
  - A one-page summary is encouraged
  - Facility can provide information on previous years' activities
  - EPA and others use this information for granting awards and recognition to companies and employees